



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,546	03/30/2001	Jin-Yuan Lee	MEG2000-012	4705
28112 7590 04/20/2007 SAILE ACKERMAN LLC 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			EXAMINER OWENS, DOUGLAS W	
			ART UNIT	PAPER NUMBER
			2821	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/20/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/821,546

Applicant(s)

LEE ET AL.

Examiner

Douglas W. Owens

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) See Continuation Sheet is/are allowed.
- 6) ☒ Claim(s) 189, 190, 203 and 204 is/are rejected.
- 7) ☒ Claim(s) 127-129, 132, 133, 181-184, 191-202, 205-208 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Continuation of Disposition of Claims: Claims pending in the application are 11-13,15,17,19,20,23-25,42-58,60-69,71,74,102-107,109-111,117-121,123-129,132-141 and 143-208.

Continuation of Disposition of Claims: Claims allowed are 11-13,15,17,19,20,23-25,42-69,71,73,74,102-107,109-111,117-121,123-126,134-141,143-180,185-188 and 209-213.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 127, 195, 197 and 203 are objected to because of the following informalities:

Claim 127, recites the limitation, "said substrate" in line 5. There is insufficient antecedent basis for this limitation in the claim.

In line 6 of claim 127, "a substrate" should be changed to --said substrate--.

In line 6 of claim 195, "a die" should be replaced with --said die--.

In line 4 of claim 197, "a substrate" should be replaced with --said substrate--.

Claim 203 recites the limitation, "said substrate" in line 2 of the claim. There is insufficient antecedent basis for this limitation.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 189, 190, 203 and 204 rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,165,885 to Gaynes et al.

Regarding claims 189 and 203, Gaynes et al. teach a method of forming an electronic package (Fig. 1) comprising the steps of:

joining a die, separated from a wafer, and a substrate (114), wherein an opening (116) in said substrate exposes a topmost patterned circuit layer of the die; and

depositing a conductive material comprising solder (Col. 15, lines 43 – 51) into the opening (118), wherein the conductive material is suited for connecting said topmost patterned circuit layer to an external circuitry. With respect to using the conductive material to connect to external circuitry, this is considered a suggested use limitation and is not given any patentable weight. (See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963)).

Regarding claims 190 and 204, Gaynes et al. teach a method, after joining the die to the substrate, further comprising forming a polymer layer encapsulating the die (Col. 19, lines 14 – 25).

#### ***Allowable Subject Matter***

4. Claims 191 – 194 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 11 – 13, 15, 17, 19, 20, 23 – 25, 42 – 58, 60 – 69, 71, 73, 74, 102 – 107, 109 – 111, 117 – 121, 123 – 126, 134 – 141, 143 – 180, 185 – 188 and 209 – 213 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: Claim 209 and claims depending from claim 209 have been allowed because

the prior art of record does not teach alone, or in combination, a method as cited in claim 209, and particularly including "joining said die, separated from a wafer, and a substrate, wherein an opening in said substrate exposes said UBM layer."

### ***Response to Arguments***

Applicant asserts that new claim 189 is allowable because it includes previously presented limitations from claims 63 and 64. The scope of newly added claim 189 is much broader than the subject matter of claims 63 and 64. Newly presented claim 203 is also much broader in scope than previously presented claims 63 and 74.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Douglas W. Owens at telephone number 571-272-1662.

Application/Control Number: 09/821,546

Page 5

Art Unit: 2821

A handwritten signature in black ink, appearing to read "Douglas W. Owens". The signature is fluid and cursive, with the first name "Douglas" being more prominent and the last name "Owens" following in a similar style.

Douglas W Owens

SPE

Art Unit 2821

DWO

April 16, 2007